

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A jet drive for an amphibious vehicle comprising:
a fluid inlet positioned in a surface of a planing hull;
a fluid outlet;
a conduit extending from the fluid inlet to the fluid outlet and defining a fluid flow path therebetween; and
a rotatable impeller housed within the conduit between the fluid inlet and fluid outlet, wherein the ratio of thrust to intake length of the jet drive is at least 18,000 Newtons per metre.
2. (Original) A jet drive as claimed in claim 1 wherein the ratio of the thrust to the overall length of the jet drive is at least 8000 Newtons per metre.
3. (Previously Presented) A jet drive as claimed in claim 1 wherein the ratio of the overall length of the jet drive to the intake length is between 2.01 and 2.11.
4. (Previously Presented) A jet drive as claimed in claim 1 wherein the ratio of the jet overall length to engine power is less than 7 millimetres per kilowatt.
5. (Previously Presented) A jet drive as claimed in claim 1 wherein the ratio of the thrust to the impeller diameter is at least 25,000 Newtons per metre.
6. (Previously Presented) A jet drive as claimed in claim 1 wherein the ratio of the jet nozzle diameter to engine power is at least 1.3 millimetres per kilowatt.
7. (Previously Presented) A jet drive as claimed in claim 1 wherein the ratio of the jet nozzle diameter to the impeller diameter is at least 0.6.
8. (Previously Presented) A jet drive as claimed claim 1 wherein the ratio of the jet nozzle diameter to the overall length of the jet drive is at least 0.21.

9. (Previously Presented) A jet drive as claimed in claim 1 wherein the ratio of fluid inlet area to fluid outlet area is in the range of 2.5 to 3.5.

10. (Previously Presented) A jet drive as claimed in claim 1 wherein the ratio of fluid inlet area to fluid outlet area is in the range of 2.6 to 3.2.

11. (Previously Presented) A jet drive as claimed in claim 1 wherein the ratio of fluid inlet area to fluid outlet area is substantially 3.03.

12. (Previously Presented) A jet drive as claimed in claim 1 wherein the fluid inlet area is in the range of 0.20m^2 to 0.400m^2 and the fluid outlet area is in the range of 0.010m^2 to 0.150m^2 .

13. (Previously Presented) A jet drive as claimed in claim 1 wherein the fluid inlet area is in the range of 0.040m^2 to 0.150m^2 and the fluid outlet area is in the range of 0.020m^2 to 0.060m^2 .

14. (Previously Presented) A jet drive as claimed in claim 1 wherein the fluid inlet area is substantially 0.081m^2 , and the fluid outlet area is substantially 0.027m^2 .

15. (Previously Presented) A jet drive as claimed in claim 1 wherein the rate of fluid flow through the jet drive is in the range of $0\text{m}^3\text{s}^{-1}$ to $1.5\text{m}^3\text{s}^{-1}$.

16. (Previously Presented) A jet drive as claimed in claim 1 wherein the rate of fluid flow through the jet drive varies from substantially $0.2\text{m}^3\text{s}^{-1}$ when the impeller is driven at 600 rpm to substantially $1.1\text{m}^3\text{s}^{-1}$ when the impeller is driven at 3000 rpm.

17. (Previously Presented) A jet drive as claimed in claim 1 comprising a stator housed within the conduit between the impeller and the fluid outlet.

18. (Previously Presented) A jet drive as claimed in claim 17 wherein the stator has an inlet diameter in the range of 0.11m to 0.66m.

19. (Previously Presented) A jet drive as claimed in claim 18 wherein the stator has an inlet diameter in the range of 0.25m to 0.35m.

20. (Previously Presented) A jet drive as claimed in claim 17 wherein the stator has an inlet diameter of substantially 0.305m.

21. (Previously Presented) An amphibious vehicle comprising a jet drive as claimed in claim 1 wherein the ratio of thrust to engine power is at least 0.05 Newtons per Watt.

22. (Previously Presented) An amphibious vehicle comprising a jet drive as claimed in claim 1 wherein the jet drive generates a peak bollard pull of at least 7kN from an engine peak power of less than 135kW, within a jet overall length of less than 860mm.

23. (Original) An amphibious vehicle as claimed in claim 22 wherein the peak bollard pull is at least 7.7kN.

24. (Previously Presented) An amphibious vehicle comprising a jet drive as claimed in claim 1 wherein the impeller can be driven in an opposite direction to that required for forward motion of the vehicle to effect a braking or a reversing function.

25. (Previously Presented) An amphibious vehicle comprising a jet drive as claimed in claim 1 further comprising a drive shaft linking a power take off of an engine to a jet input of the jet drive, wherein the drive shaft is skewed horizontally and/or vertically relative to the longitudinal axis of the vehicle.

26. (Original) An amphibious vehicle as claimed in claim 25 further comprising at least one universal joint affixed to the drive shaft.

27. (Previously Presented) An amphibious vehicle as claimed in claim 25 further comprising at least one constant velocity joint affixed to the drive shaft.

28. (Previously Presented) An amphibious vehicle as claimed in claim 25, wherein no part of the jet drive extends out of the vehicle.

29. (Previously Presented) A jet drive for an amphibious vehicle comprising:
a fluid inlet positioned in a surface of a planing hull;
a fluid outlet;
a conduit extending from the fluid inlet to the fluid outlet and defining a fluid flow path therebetween; and

a rotatable impeller housed within an impeller housing in the conduit between the fluid inlet and fluid outlet, wherein the ratio of the axial length of the conduit to the mean internal diameter of the impeller housing is less than 4.0.

30. (Original) A jet drive as claimed in claim 29 wherein the ratio of the axial length of the conduit to the mean internal diameter of the impeller housing is less than 3.2.

31. (Previously Presented) A jet drive as claimed in claim 29 wherein the ratio of the axial length of the conduit to the mean internal diameter of the impeller housing is substantially 2.9.

32. (Previously Presented) A jet drive as claimed in claim 29 wherein the axial length of the conduit is in the range of 0.3m to 2.0m, and the mean internal diameter of the impeller housing is in the range 0.1m to 0.66m.

33. (Previously Presented) A jet drive as claimed claim 29 wherein the axial length of the conduit is in the range of 0.7m to 1.0m, and the mean internal diameter of the impeller housing is in the range 0.25m to 0.33m.

34. (Previously Presented) A jet drive as claimed in claim 29 wherein the axial length of the conduit is substantially 0.85m, and the mean internal diameter of the impeller housing is substantially 0.295m.

35-37. (Canceled)

38. (Previously Presented) An amphibious vehicle incorporating the jet drive as claimed in claim 1.

39-41. (Canceled)

42. (Previously Presented) An amphibious vehicle incorporating the jet drive as claimed in claim 29.